

RFQ extension

RFQ LY22-405

Rescue boats technical equipment

New deadline

20-September-2022

## REQUEST FOR QUOTATION (RFQ)

RFQ Reference: LY22-405

Date: 28 November 2022

### **SECTION 1: REQUEST FOR QUOTATION (RFQ) for Rescue boats technical equipment for sea rescue patrolling.**

International Organisation for Migration (IOM) kindly requests your quotation for the provision of goods, works and/or services as detailed in Annex 1 of this RFQ.

This Request for Quotation comprises the following documents:

Section 1: This request letter

Section 2: RFQ Instructions and Data

Annex 1: Schedule of Requirements

Annex 2: Quotation Submission Form

Annex 3: Technical and Financial Offer

Annex 4: Technical specification of items

When preparing your quotation, please be guided by the RFQ Instructions and Data. Please note that quotations must be submitted using Annex 2: Quotation Submission Form and Annex 3: Technical and Financial Offer, by the method and by the date and time indicated. It is your responsibility to ensure that your quotation is submitted on or before the deadline. Quotations received after the submission deadline, for whatever reason, will not be considered for evaluation.

Thank you and we look forward to receiving your quotations.

IOM Libya Procurement

## SECTION 2: RFQ INSTRUCTIONS AND DATA

<b>Deadline for the Submission of Quotation</b>	20-12-2022, 5pm Libya time (GMT +2) If any doubt exists as to the time zone in which the quotation should be submitted, refer to <a href="http://www.timeanddate.com/worldclock/">http://www.timeanddate.com/worldclock/</a> .
<b>Method of Submission</b>	<p>Quotations must be submitted as follows:</p> <p><input type="checkbox"/> E-tendering</p> <p><input checked="" type="checkbox"/> Email</p> <p><input type="checkbox"/> Courier / Hand delivery</p> <p><input type="checkbox"/> Other</p> <p>Bid submission address: iomlibyaproposal@iom.int</p> <ul style="list-style-type: none"> <li>▪ File Format: <b>PDF</b></li> <li>▪ File names must be maximum 60 characters long and must not contain any letter or special character other than from Latin alphabet/keyboard.</li> <li>▪ All files must be free of viruses and not corrupted.</li> <li>▪ Max. File Size per transmission: <b>15MB</b></li> <li>▪ Mandatory subject of email: <b>RFQ LY22-405</b></li> <li>▪ Multiple emails must be clearly identified by indicating in the subject line "email no. X of Y", and the final "email no. Y of Y".</li> <li>▪ It is recommended that the entire Quotation be consolidated into as few attachments as possible.</li> <li>▪ The proposer should receive an email acknowledging email receipt.</li> </ul>
<b>Cost of preparation of quotation</b>	IOM shall not be responsible for any costs associated with a Supplier's preparation and submission of a quotation, regardless of the outcome or the manner of conducting the selection process.
<b>Supplier Code of Conduct</b>	All prospective suppliers must read the UN Supplier Code of Conduct and acknowledge that it provides the minimum standards expected of suppliers to the UN. The Code of Conduct, which includes principles on labour, human rights, environment and ethical conduct may be found at: <a href="http://ungm.org">Supplier Code of Conduct (ungm.org)</a> .
<b>Conflict of Interest</b>	UN encourages every prospective Supplier to avoid and prevent conflicts of interest, by disclosing to UN if you, or any of your affiliates or personnel, were involved in the preparation of the requirements, design, specifications, cost estimates, and other information used in this RFQ.
<b>General Conditions of Contract</b>	Any Purchase Order or contract that will be issued as a result of this RFQ shall be subject to the IOM General Conditions of Contract for provision of goods/services/transportation/medical services available at <a href="https://www.iom.int/do-business-us-procurement">https://www.iom.int/do-business-us-procurement</a> .
<b>Eligibility</b>	Bidders shall have the legal capacity to enter into a binding contract with IOM and to deliver in the country, or through an authorized representative.
<b>Currency of Quotation</b>	Quotations shall be quoted in USD.
<b>Duties and taxes</b>	<p>The International Organization for Migration is exempt from all direct taxes, except charges for public utility services, and is exempt from customs restrictions, duties, and charges of a similar nature in respect of articles imported or exported for its official use. All quotations shall be submitted net of any direct taxes and any other taxes and duties, unless otherwise specified below:</p> <p>All prices shall:</p> <p><input checked="" type="checkbox"/> be inclusive of VAT and other applicable indirect taxes</p> <p><input type="checkbox"/> be exclusive of VAT and other applicable indirect taxes</p>
<b>Language of quotation and documentation including</b>	<b>English</b>

<b>catalogues, instructions and operating manuals</b>	
<b>Documents to be submitted</b>	<p>Bidders shall include the following documents in their quotation:</p> <p><input checked="" type="checkbox"/> Annex 2: Quotation Submission Form duly completed and signed</p> <p><input checked="" type="checkbox"/> Annex 3: Technical and Financial Offer duly completed and signed and in accordance with the Schedule of Requirements in Annex 1</p> <p><input type="checkbox"/> Other <a href="#">Click or tap here to enter text.</a></p>
<b>Quotation validity period</b>	Quotations shall remain valid for 90 days from the deadline for the Submission of Quotation.
<b>Price variation</b>	No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted at any time during the validity of the quotation after the quotation has been received.
<b>Partial Quotes</b>	<p><input checked="" type="checkbox"/> Not permitted</p> <p><input type="checkbox"/> Permitted <i>(please specify, i.e. by LOTS only or by line item, etc)</i></p>
<b>Payment Terms</b>	<p><input checked="" type="checkbox"/> 100% within 30 days after receipt of goods, works and/or services and submission of payment documentation.</p> <p><input type="checkbox"/> Other <a href="#">Click or tap here to enter text.</a></p>
<b>Contact Person for correspondence, notifications and clarifications</b>	<p>Focal Person: Abdelraouf Ableblo</p> <p>E-mail address: <a href="mailto:aableblo@iom.int">aableblo@iom.int</a></p> <p><b>Attention: Quotations shall not be submitted to this address but to the address for quotation submission above.</b></p>
<b>Clarifications</b>	Requests for clarification from bidders will not be accepted any later than 2 days before the submission deadline. Responses to request for clarification will be communicated IOMLIBYAPROPOSAL@IOM.INT by 08 December 2022
<b>Evaluation method</b>	<p><input checked="" type="checkbox"/> The contract will be awarded to the lowest price substantially compliant offer</p> <p><input type="checkbox"/> Other PO</p>
<b>Evaluation criteria</b>	<p><input checked="" type="checkbox"/> Full compliance with all requirements as specified in Annex 1</p> <p><input checked="" type="checkbox"/> Full acceptance of the General Conditions of Contract</p> <p><input type="checkbox"/> Comprehensiveness of after-sales services</p> <p><input checked="" type="checkbox"/> Earliest Delivery /shortest lead time</p> <p><input type="checkbox"/> Others <i>(for ex, environmental criteria/considerations, etc)</i></p>
<b>Right not to accept any quotation</b>	IOM is not bound to accept any quotation, nor award a contract or Purchase Order
<b>Right to vary requirement at time of award</b>	At the time of award of Contract or Purchase Order, IOM reserves the right to vary (increase or decrease) the quantity of services and/or goods, by up to a maximum 25% of the total offer, without any change in the unit price or other terms and conditions.
<b>Type of Contract to be awarded</b>	Purchase Order for Services
<b>Expected date for contract award</b>	<b>26 December 2022</b>
<b>Policies and procedures</b>	This RFQ is conducted in accordance with Policies and Procedures of IOM
<b>UNGM registration</b>	IOM is encouraging all suppliers to register at the United Nations Global Marketplace (UNGM) website at <a href="http://www.ungm.org">www.ungm.org</a> . The Bidder may still submit a quotation even if not registered with the UNGM, however, if the Bidder is selected for Contract award of USD 100,000 and above, the Bidder is recommended to register on the UNGM prior to contract signature. For vendors who do not have the technical means to register in UNGM, the UNGM has implemented an assisted vendor registration functionality that allows IOM procurement personnel to add local vendors to the UNGM.

## ANNEX 1: SCHEDULE OF REQUIREMENTS

### Details of Services:

Item No	Minimum technical requirements	Unit	QTY
1	MF/HF (150 watt) Output Power. MF/HF has Digital Selective Calling (DSC) as standard with a built-in 6-channel DSC watch-keeping receiver. The MF/HF integrates an advanced digital audio amplifier, complete with Tuner, antenna and power supply.	EA	1
2	VHF / DSC 25-watt Output Power, complete with antenna and power supply	EA	1
3	GPS SYSTEM GPS navigator system complete with display unit and GPS sensor	EA	1
4	AIS SYSTEM (Automatic Identification System (12.5 watt) Output power, complete with display, AIS transponder and power supply) for Marine use.	EA	1
5	Receiver" direct printing service for delivery of navigational warnings a function receives and display the various types of information broadcast at frequencies of 518 kHz and either 490 KH or 2409.5 KH, such as: navigational warning, metrological warning, search and rescue information, and other types of information. The system is consisting of receiver, antenna, and power supply	EA	1
6	WIND SYSTEM Heavy duty cup and vane wind sensor with alpha line repeater display 5 inches.	EA	1
7	Marine chart plotter with internal GPS .	EA	1

### Delivery Requirements

Delivery Requirements	
<b>Delivery date and time</b>	Bidder shall deliver the services To Tripoli After PO signature.
<b>Delivery Terms (INCOTERMS 2020)</b>	DAP
<b>Customs clearance (must be linked to INCOTERM)</b>	<input checked="" type="checkbox"/> Not applicable Shall be done by: <input type="checkbox"/> Name of organisation <input type="checkbox"/> Supplier/bidder <input type="checkbox"/> Freight Forwarder
<b>Exact Address(es) of Delivery Location(s)</b>	Tripoli
<b>Distribution of shipping documents (if using freight forwarder)</b>	N/A
<b>Packing Requirements</b>	N/A
<b>Training on Operations and Maintenance</b>	N/A
<b>Warranty Period</b>	N/A
<b>After-sales service and local service support requirements</b>	N/A

<b>Preferred Mode of Transport</b>	Other N/A
<b>Other information</b>	

## ANNEX 2: QUOTATION SUBMISSION FORM

*Bidders are requested to complete this form, including the Company Profile and Bidder's Declaration, sign it and return it as part of their quotation along with Annex 3: Technical and Financial Offer. The Bidder shall fill in this form in accordance with the instructions indicated. No alterations to its format shall be permitted and no substitutions shall be accepted.*

Name of Bidder:	Click or tap here to enter text.	
RFQ reference:	LY22-405	Date: Click or tap to enter a date.

### VENDOR INFORMATION SHEET<sup>1</sup>

Please attach the latest vendor information sheet to be filled in and signed by the vendor

### BIDDER'S DECLARATION OF CONFORMITY<sup>2</sup>

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I hereby represent and warrant that neither the Supplier, nor any person having powers of representation, decision-making or control over it or any member of its administrative, management or supervisory body, has been the subject of a final judgement or final administrative decision for one of the following reasons: bankruptcy, insolvency or winding-up procedures; breach of obligations relating to the payment of taxes or social security contributions; grave professional misconduct, including misrepresentation, fraud; corruption; conduct related to a criminal organisation; money laundering or terrorist financing; terrorist offences or offences linked to terrorist activities; child labour and other trafficking in human beings, any discriminatory or exploitative practice, or any practice that is inconsistent with the rights set forth in the Convention on the Rights of the Child or other prohibited practices; irregularity; creating or being a shell company.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that the Supplier is financially sound and duly licensed.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that the Supplier has adequate human resources, equipment, competence, expertise and skills necessary to complete the contract fully and satisfactorily, within the stipulated completion period and in accordance with the relevant terms and conditions.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that the Supplier complies with all applicable laws, ordinances, rules and regulations.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that the Supplier will in all circumstances act in the best interests of IOM.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that no official of IOM or any third party has received from, will be offered by, or will receive from the Supplier any direct or indirect benefit arising from the contract.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that the Supplier has not misrepresented or concealed any material facts during the contracting process.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that the Supplier will respect the legal status, privileges and immunities of IOM as an intergovernmental organization.

<sup>1</sup> [Vendor Information Sheet.xlsx](#)

<sup>2</sup> This form is mandatory to fill in and sign by every vendor who submits quotation

Yes	No	
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that neither the Supplier nor any persons having powers of representation, decision-making or control over the Supplier or any member of its administrative, management or supervisory body are included in the most recent Consolidated United Nations Security Council Sanctions List (the "UN Sanctions List") or are the subject of any sanctions or other temporary suspension. The Supplier will immediately disclose to IOM if it or they become subject to any sanction or temporary suspension.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that the Supplier does not employ, provide resources to, support, contract or otherwise deal with any person, entity or other group associated with terrorism as per the UN Sanctions List and any other applicable anti-terrorism legislation.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that, the Supplier will apply the highest ethical standards, the principles of efficiency and economy, equal opportunity, open competition and transparency, and will avoid any conflict of interest.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I further represent and warrant that the Supplier undertakes to comply with the Code of Conduct, available at <a href="https://www.unhcr.org/Public/CodeOfConduct">https://www.unhcr.org/Public/CodeOfConduct</a> .
<input type="checkbox"/>	<input type="checkbox"/>	It is the responsibility of the Supplier to inform IOM immediately of any change to the information provided in this Declaration.
<input type="checkbox"/>	<input type="checkbox"/>	On behalf of the Supplier, I certify that I am duly authorized to sign this Declaration and on behalf of the Supplier I agree to abide by the terms of this Declaration for the duration of any contract entered into between the Supplier and IOM.
<input type="checkbox"/>	<input type="checkbox"/>	IOM reserves the right to terminate any contract between IOM and the Supplier, with immediate effect and without liability, in the event of any misrepresentation made by the Supplier in this Declaration.

Signature: \_\_\_\_\_

Name: Click or tap here to enter text.

Title: Click or tap here to enter text.

Date: Click or tap to enter a date.



### ANNEX 3: TECHNICAL AND FINANCIAL OFFER – SERVICES

*Bidders are requested to complete this form, sign it and return it as part of their quotation along with Annex 2 Quotation Submission Form. The Bidder shall fill in this form in accordance with the instructions indicated. No alterations to its format shall be permitted and no substitutions shall be accepted.*

Name of Bidder:	Click or tap here to enter text.	
RFQ reference:	LY22-405	Date: Click or tap to enter a date.

#### Technical Offer

*Provide the following:*

- A full description of items provided with sample pictures or catalogues
- Specification sheet and country of origin

#### Financial Offer

Provide a lump sum for the provision of the services stated in the Terms of Reference of your technical offer. The lump-sum should include all costs of preparing and delivering the Services. All daily rates shall be based on an eight-hour working day.

**Currency of Quotation: USD**

REF	Description of Deliverables	Unit	QTY	Unit Price	Total Price
1	MF/HF (150 watt) Output Power. MF/HF has Digital Selective Calling (DSC) as standard with a built-in 6-channel DSC watch-keeping receiver. The MF/HF integrates an advanced digital audio amplifier, complete with Tuner, antenna and power supply.	EA	1		
2	VHF / DSC 25-watt Output Power, complete with antenna and power supply	EA	1		
3	GPS SYSTEM GPS navigator system complete with display unit and GPS sensor	EA	1		
4	AIS SYSTEM (Automatic Identification System (12.5 watt) Output power, complete with display, AIS transponder and power supply) for Marine use.	EA	1		

5	Receiver" direct printing service for delivery of navigational warnings a function receives and display the various types of information broadcast at frequencies of 518 kHz and either 490 KH or 2409.5 KH, such as: navigational warning, metrological warning, search and rescue information, and other types of information. The system is consisting of receiver, antenna, and power supply	EA	1		
6	WIND SYSTEM Heavy duty cup and vane wind sensor with alpha line repeater display 5 inches.	EA	1		
7	Marine chart plotter with internal GPS .	EA	1		

### Breakdown of Fees

### Compliance with Requirements

	You Responses		
	Yes, we will comply	No, we cannot comply	If you cannot comply, pls. indicate counter proposal
Delivery Lead Time	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Validity of Quotation	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Payment terms	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.
Other requirements [pls. specify]	<input type="checkbox"/>	<input type="checkbox"/>	Click or tap here to enter text.

I, the undersigned, certify that I am duly authorized to sign this quotation and bind the company below in event that the quotation is accepted.	
<i>Exact name and address of company</i> Company Name: Click or tap here to enter text. Address: Click or tap here to enter text. Click or tap here to enter text. Phone No.: Click or tap here to enter text. Email Address: Click or tap here to enter text.	Authorized Signature: Date: Click or tap here to enter text. Name: Click or tap here to enter text. Functional Title of Authorised Signatory: Click or tap here to enter text. Email Address: Click or tap here to enter text.

# HF Annex 4 : Specifications

IMO type approved	✓	✓	✓
Output power	150W		
Regulations	IMO A.806 (19), A.694 (17), MSC68 (68), MSC/Circ.862, IEC 60945 Ed.4 2002-08		
Transmission frequency	1605.0 to 27500.0 kHz (100 Hz steps)		
Reception frequency	90 to 29999.9 kHz (100 Hz steps)		
Frequency stability	Within $\pm 10$ Hz		
Watch-keeping frequencies	2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz, 16804.5 kHz		
Type of emission	TEL (J3E), DSC, Telex (F1B), CW (A1A), Data (H2B, J2D), AM receiver (H3E)		
User programmable channel	Up to 400 (20 channels x 20 groups)		
ITU preset channel	1722 ch		
Channel switching time	15 sec or less		
Communication method	Push to talk (simplex, semi-duplex)		
Antenna impedance	50 $\Omega$		
Reception attenuation (ATT)	4 steps: 6dB, 12db, 18db, off		
Display	3.8-inch LED backlit (320 by 240 pixels)		
Communication speed	57.6 kbps		
Microphone input	-54 dBm		
Audio output	Loud speaker: 5W (8 $\Omega$ ), handset phone: 1mW or more (150 $\Omega$ )		
Interface	IEC61162-1 (GPS/AME/RMS)		
Compass safety distance	1.9 m		
Receiving system	Double superheterodyne		
Sensitivity (SINAD 20dB)	J3E: $\leq 2.5\mu\text{V}$ , F1B: $\leq 0.7\mu\text{V}$ , A1A: $\leq 1.4\mu\text{V}$		
RMS interface	Built-in		
Transmitter output 1.6-4 MHz Transmitter output 4-27.5 MHz	DC: 100Wpx DC: 150Wpx	DC:100Wpx, AC: 200Wpx DC:150Wpx, AC: 250Wpx	DC:100Wpx, AC: 400Wpx DC:150Wpx, AC: 500Wpx
Power	21.6-31.2V DC (optional power supply 90-132V AC, 180-264V AC)		
Consumption	DC: TX $\leq 30\text{A}$ , RX $\leq 5\text{A}$	DC: TX $\leq 40\text{A}$ , RX $\leq 7\text{A}$ AC: TX $\leq 2.0\text{kVA}$ , RX $\leq 0.5\text{kVA}$	DC: TX $\leq 40\text{A}$ , RX $\leq 7\text{A}$ AC: TX $\leq 3.0\text{kVA}$ , RX $\leq 0.5\text{kVA}$
Power saving	Relays are turned off when in sleep mode		
Ambient conditions	Operating temperature: -15° to 55°C (display), -25° to 55°C (antenna tuner) Storage temperature: -15° to 55°C (display), -25° to 70°C (antenna tuner) IP protection rate: IP22 (display), IP66 (handset) Relative humidity: 0% to 93% non-condensing		

## VHF

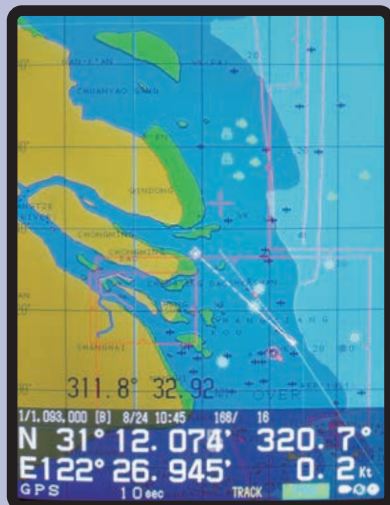
### Specifications

Communication modes	Simplex and semi-duplex press talk system
Transmission frequency	Simplex / semi-duplex : 155.000 - 163.500 MHz
Reception frequency	Simplex / semi-duplex : 155.000 - 163.500 MHz
Output Power	25 W
Antenna output power	6 - 25 W ( when reducing : 0.5 - 1 W )
Modulation method	FM / FSK
Type of emission	Radiotelephone communications : F3E / G3E DSC / ATIS : F2B / G2B
Channel spacing	25 kHz
Frequency accuracy	$\pm 10 \times 10^{-6}$ or less
Antenna impedance	50 $\Omega$ unbalanced
DSC CH70 receiver	Receiver : built in Frequency : 156.525 MHz
Power supply voltage	24 VDC : 4.5 A or 12 VDC
Operating temperature	-25°C to +55°C
Storage temperature	-40°C to +80°C
Waterproofing	IP56

# Chart Plotter



Course up mode



C-MAP card indication



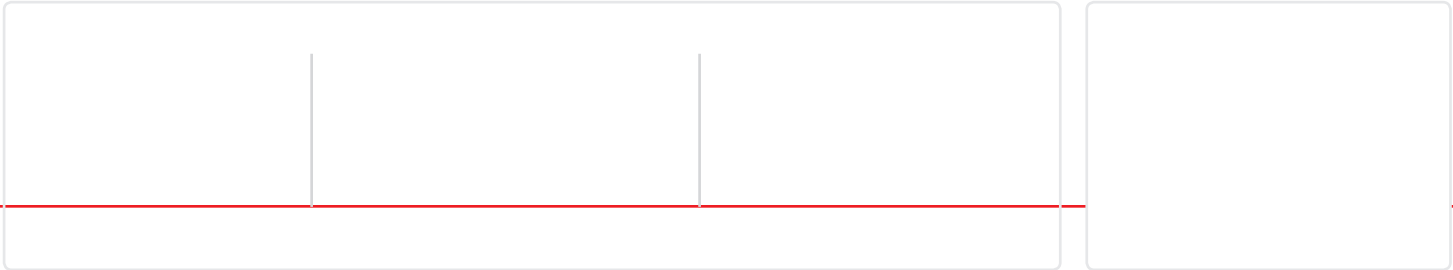
Water temperature a track indication

## Major Specifications

Display	10.4 inch high-luminance TFT color LCD
Display method	Mercator projection (up to lat. 85°) (in equidistant presentation)
Chart scale	1/1,000 to 1/10,000,000 variable continuously or in 10 steps
Track display	Display color 7 colors Plotting intervals 1, 3, 5, 10 or 30 sec., 1, 5, 30 or 60 min., or Settable to a distance of 0.1, 0.5, 1, 3, 5, 10 miles and Off. Memory capacity 20,000 points (including marks)
Marks	Display color 7 colors Memory capacity 20,000 points (including trail) Mark types 5 types (selectable from 13 types)
Event marks	Display color 7 colors Memory capacity Included in the mark memory Mark types 3 types (selectable from 9 types)
Waypoint marks	999 points
Chart data	CMAP-NT and NT + card (option)
External memory	Memory card with a capacity of 100,000 points (option)
Cursor	Trackball operation
Data display	Own ship's current position, scale, bearing/ range/time to destination, own ship's course/ speed, cursor position and time
Data output	NMEA 0183 and JRC format
Other features	Screen width display Instant plot storing DGPS/GPS receiver, DGPS212/GPS112 connectable Loran A/C time difference display Decca LOP display (with correction) Route planning External event input External buzzer output (relay contact)
Power supply	12/24/32 V DC (10.8-42 V DC) 40W (MAX)
Operating temperature	-15°C to +55°C
Options	GPS receiver GPS112 DGPS receiver DGPS212 Video output unit CAD-239

# AIS Specifications

IMO type approved	✓
Frequency	156.025–162.025 MHz, default channels 161.975 MHz, 162.025 MHz, DSC (receive only): 156.525 MHz
Frequency accuracy	Within $\pm 3 \times 10^{-6}$
Channel spacing	25 kHz
Type of emission	AIS: G1D (F1D)
Type of modulation	AIS: GMSK
Power	19–35V DC (optional power supply 100–220V AC)
Consumption	Up to 3.0A (transmitting), up to 1.0A (receiving)
Output power	12.5W/1W
Display <span>New</span>	4.5–inch FSTN LCD (128 by 64 pixels)
Keyboard	12 (backlit) keys
Dimmer	4 levels
Interfacing (standard)	IEC61162–1/2 input: 2 ports (GPS, gyro) IEC61162–2 in/output: 1 port (radar or ecdis)
Interfacing (with connection box)	IEC61162–1/2 input: 3 ports (GPS, gyro, speed log) IEC61162–1/ITU–R M, 823–2: 1 port (DGPS) IEC61162–2 in/output: 3 ports (radar, ecdis, long range) IEC61993–2 alarm output: 1 port
IEC61162–1 input	GNS, GLL, DTM, GBS, VBW, RMC, HDT, ROT, GGA, VTG
IEC61162–2 input	ABM, ACA, ACK, AIR, BBM, LRI, LRF, VSD, SSD, EPV, HBT, VDS, AIQ
IEC61162–2 output	ABK, ACA, ALR, DSC, DSR, LRF, LR1, LR2, LR3, TXT, VDO, VDM, TRL, VER, NAK
LAN <span>New</span>	IEC 61162–450: 1 port (for maintenance and ship's network)
Pilot plug	IEC61162–2 in/output: 1 port
Pilot plug input	ABM, ACA, ACK, AIR, BBM, EPV, SPW, HBT, SSD, VSD, AIQ
Pilot plug output	ABK, ACA, ACS, ALR, TRL, TXT, SSD, VSD, VDM, VDO, VER, NAK, DSC, DSR
Transponder connection	Single coax cable (up to 50 m) from display to transponder
Ambient conditions	Operating temperature: –25° to 55°C (transponder) –15° to 55°C (display, connection box) IP protection rate: IP56 (transponder), IP55 (display) Relative humidity: 0% to 95% non-condensing



# Navtex receiver

## – specifications

Model		
IMO compliant		✓
Display		
	Display	5.7-inch, white LED backlit, 320 by 240 pixels
	Dimmer	4 stages (bright, middle, dark, off)
	Power supply	10.8V to 31.2V DC, <9 W
	Receiving frequency	518 kHz, 490 kHz, 4209.5 kHz
	Receiving modulation	F1B navtex broadcast
	Sensitivity	character error rate $\leq 1 \times 10^{-2}$ ar 1uV
	Antenna input	50Ω for navtex antenna
		50Ω for wire antenna
		high impedance for wire antenna
	Message log	stores last 200 message (every channel)
		saves up to 50 messages (every channel)
		stores messages up to 70 hours
	External interface	2 serial ports (printer, INS)
	Operating temperature	-15° to 55°C
	Storage temperature	-25° to 75°C
	Waterproof	IPX2
Optional items		
Antenna		
	Model	NAW-333
	Receiving frequency	518 kHz, 490 kHz, 4209.5 kHz
	Bandwidth	504 kHz $\pm 20$ kHz, 4209.5 kHz $\pm 100$ kHz
	Consumption current	6.5V DC, 23mA
	Impedance	50Ω
	Temperature	-25° to 55°C
Power supply (DC/DC)		
	Model	NBG-319
	Input voltage	10.8V to 35V DC
	Output voltage	10.8V to 35V DC
		typ. 6.5V DC $\pm 10\%$ (external printer)
	Maximum current	1.5A (12V to 24V DC), 2A (6.5V DC)
Power supply (AC/DC)		
	Model	NBG-320
	Input voltage	100-120V to 200-220V DC $\pm 10\%$ , 50/60 Hz single phase
		24V DC +30% -10% (backup power supply)
	Output voltage	12V DC $\pm 10\%$
		typ. 6.5V DC $\pm 10\%$ (external printer)
	Maximum current	1.5A (24V DC), 2A (6.5V DC)
Printer (table mount)		DPU-414
Printer (flush mount)		NKG-91
Navtex buzzer		CGC-300B

All specifications are subject to change without notification.

# Wind System Specification

Power Supply	24 Vdc (20-32 V)
NMEA Baud rate	4800 bps
Data	RS422 with NMEA0183 Standard
Dimensions	Height: 588mm, Activity radius 350mm
Weight	8 kg

Working Temperature	-20°C ~ +85°C
Storage Temperature	-20°C ~ +85°C
Humidity	10% ~ 100% RH
Protection	IP56

Wind Speed Range	0 ~ 60m/s
Wind Speed Accuracy	±5% (min. 0.1m/s)
Wind Direction Range	0 ~ 359°
Wind Direction Accuracy	± 1°
Min. Start speed	≤ 0.5m/s